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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,311	04/19/2004	Thorsten Stabel	47481-0008-00-US	1320
55694 7590 03/01/2007 DRINKER BIDDLE & REATH (DC) 1500 K STREET, N.W. SUITE 1100 WASHINGTON, DC 20005-1209			EXAMINER ADDISU, SARA	
			ART UNIT	PAPER NUMBER
			3722	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/01/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

ED

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/826,311	STABEL ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Sara Addisu	3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2004 and 26 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on **1/29/07** has been entered.

Currently, claims 1-22 are pending in this application.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

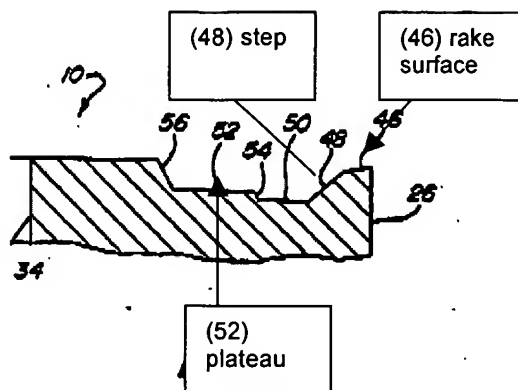
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-8, 11-16, 18, 19, 21 and 22, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Katbi et al. (U.S. Patent No. 5,230,591).

Katbi et al. teaches a cutting insert having a multi-cornered base body (square when viewed in top view, fig 2) including top and bottom surfaces (12 & 14), side flanks (26, 28, 30 & 32) interconnected by corner surfaces, cutting surface (36) on top and/or bottom surface, peripheral cutting edge (38) formed at the intersection of side flanks and top and bottom surfaces (12 & 14) (see figure 1 and Col. 2, lines 40-45). Katbi et al. also teaches the cutting surface having a central bore (34), a plateau (52: Examiner is defining it to be the plateau and since it is a support pad it defines a seating surface) surrounded by a peripheral positive rake surface (46) that is situated between the plateau surface (52) and the cutting edge (38) (see diagram below). Furthermore, Katbi et al. teaches an upwardly extending variable peripheral step (48) interconnecting the plateau (52) and the rake surface (46) (with the corner step portions extending uninterruptedly along the respective corner rake surface portions) (see figure 2, which also shows that step (48) is linear when viewed perpendicular to the cutting surface). Additionally, Katbi et al. teaches side flanks forming obtuse corners (see figure 2). Regarding claim 19, Katbi et al. teaches variable width land surface (rake) which is changes width at (44) leading to a wavy step portion around the corners (see figure 2 and Col. 2, lines 49-54). Furthermore, Examiner points out that Katbi et al. teaches the cutting edge (38: which is arched) has a descending rake (46) located rearward from the cutting edge and the descending rake face is followed by a descending step (48) ('591, figure 4 and Col. 2, lines 45-58 and 66-68). If the height of the step was constant then the step would no longer be descending towards the center of the insert but rather ascending since the rake surface just forward of it has a variable descending angle. See

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figure below for further explanation (the angles are exaggerated). Katbi et al. teaches the rake face (46) having descending angle 14 degrees and narrower width (wa) at the corner and 12 degrees and a wider width (wb) towards the flank ('591, Col. 2, lines 58-60 and 51-53). As shown below, the left figure indicates corner portion where the cutting edge is at its highest height (because it's arched at the center), however the rake face has a wider descending angle and a narrower width (wa) which leads to the following portion (i.e. descending step, 48) to start descending from a higher location to plateau 52. On the other hand, the right hand figure represents the flank area such as the center where the cutting edge is at its lowest height (because it's arched at the center), however the rake face has a smaller descending angle and a wider width (wb) which leads to the following portion (i.e. descending step, 48) to start descending from a lower location to plateau 52, thus there is a height difference (ha is higher than hb) (i.e. the step has a varying height, wherein a maximum height is disposed at the corner step portions, as recited in claim 1). Furthermore, Katbi et al. teaches '591, Col. 2, lines 60-65) that "Those skilled in the art recognize that any angles can be used as the first variable descending land angle so long as the first variable descending land angles at the corners of the insert are greater than the first variable descending land angle of the surface along the flanks of the insert", therefore the selected angles would determine how substantially height difference there should be. Examiner points out that given the fact that inserts are small in size, even if the angle difference is small, there is a height difference which may be considered "substantial" in a unit of measure such as micrometer.



### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 9 and 10, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Katbi et al. (U.S. Patent No. 5,230,591), in view of Okada et al. (U.S. Patent No. 6,234,726).

Katbi et al. teaches a cutting insert having a multi-cornered base body as set forth in the above rejection.

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However, Katbi et al. fails to teach the insert having a wedge angle less than 90 degrees to define a lateral clearance surface.

Okada et al. teaches an indexable insert having flank faces (23) inclined inwardly as they approach a lower surface of the tip body (i.e. have a wedge angle less than 90 degrees), defining a clearance angle/surface with respect to the edges (24) (see figure 2 and Col. 10, lines 34-35).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to incline inwardly the peripheral surfaces of Katbi et al.'s insert towards the lower surface as taught by Okada et al. for the purpose of obtaining clearance in relation to work piece.

3. Claim 17, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Katbi et al. (U.S. Patent No. 5,230,591), in view of Hessman et al. (USP 5,032,049).

Katbi et al. teaches a cutting insert as set forth in the above rejection.

However, Katbi et al. fails to teach the minimum height of the step being situated closer to one of the corners.

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Hessman et al. teaches a cutting insert having side surfaces (13A-13D).

Hessman et al. also teaches in figure 2a, side surfaces 13B and 13D having cutting edges that form two arched portions such that step (16A) located at the lowest point of the arch is closer to one of the corners of the cutting insert ('049, Figures 2a).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Katbi et al.'s invention such that it's cutting edge has two arched portions, as taught by Hessman et al. for the purpose of achieving carefully defined line-shaped support surfaces abutting the site of the milling body ('049, Col. 3, lines 29-32).

4. Claim 20, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Katbi et al. (U.S. Patent No. 5,230,591).

Katbi et al. teaches a cutting insert as set forth in the above rejection. Katbi et al. fails to teach a bore passing through the base body from one lateral face to another lateral face. However, it is well known in the art that when there is a milling tool having a tool body on which a plurality of cutting inserts are supported, the cutting inserts could be mounted preferably as lateral insert or tangential inserts, that is, their securing bore is oriented either approximately in the axial direction (lateral insert) or in the radial direction (tangential insert) thus have a bore passing through the base body from one lateral face to another lateral face.



**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sara Addisu at (571) 272-6082. The examiner can normally be reached on 8:30 am - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Monica Carter can be reached on (571) 272-4475. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sara Addisu  
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SA  
2/22/07

  
MONICA CARTER  
SUPERVISORY PATENT EXAMINER